

A NEW SPECIES OF HOLOCHILA (RHOPALOCERA, FAMILY LYCAENIDAE) FROM VICTORIA AND SOUTHERN NEW SOUTH WALES

BY NORMAN B. TINDALE, SOUTH AUSTRALIAN MUSEUM

Plate 14 and text fig. 1-4

SUMMARY

A new species of Lycaenid, *Holochila goodingi* Tindale is described from subalpine valleys of South Eastern Australia. Some notes and distribution records are given for kindred species.

INTRODUCTION

An elusive form of *Holochila* has been taken on a few occasions, and seen flying on others, in southern Victoria during the past 40 or more years.

In 1962 Mr. C. G. L. Gooding showed me two specimens which he had received from Mr. V. Smith, who had taken a small series at the junction of the McAlister and Barclay Rivers, Victoria, on the 11th and 12th of November 1950. Previously on 20 November 1919 Gooding had taken a female example at Moe, and in November 1962 had seen but missed taking another specimen perched on a native clematis vine in a grove of eucalyptus near a fern gully at Buln Buln, Victoria.

Mr. J. C. Le Souef earlier also had shown me two specimens he had taken at Warragul in March 1939; they were in fact the first two butterflies he had ever collected. On 12 January 1963 I took a worn example, which seemed to be the same species, near a creek above Tom Groggin, New South Wales, at an elevation of about 3,500 feet in a *Pomaderris apetala* thicket among Mountain Ash trees. Still more recently Mr. D. F. Crosby has sent me a male specimen from Cement Creek, Victoria, taken in December.

Study of these specimens has indicated the presence of a rarely taken new species, and this paper is the result.

I am indebted to Messrs. C. J. L. Gooding, J. C. Le Souef and D. F. Crosby for the loan of material. Mr. Gooding kindly has deposited the type specimens of the new species in the South Australian Museum and Mr. Le Souef has given one paratype.

Opportunities were taken to check the G. A. Waterhouse Collection at the Australian Museum, Sydney, and the material in the C.S.I.R.O. collection at Canberra. I am indebted therefore to Mr. C. N. Smithers of the Australian Museum and to Dr. D. Waterhouse and Mr. I. F. B. Common of the Entomological Branch, Canberra, for courtesies received.

Holochila genus Felder 1862

Holochila Felder 1862: 490. Type species, *Holochila absimilis* Felder 1862.

G. E. Tite (1963) recently revised the species of the genera allied to *Candalides* and has revived Felder's generic name for about 20 species formerly placed chiefly in *Candalides*. That genus is now restricted to its genotype, *Candalides xanthospilos* (Hübner).

Tite placed six Australian species in *Holochila* but regarded one, *H. persimilis* (Waterhouse) as of uncertain status. One species is found only in the Schouten Islands, and others range from Misol to the Aru Islands and through New Guinea to the Louisiade Archipelago.

In the present paper I recognize *H. persimilis* as a valid species and add a seventh species to the Australian list.

Tite, in his review, indicated the relatively scant material he had available for study of some of the Australian species. I take this opportunity to list some of the more significant localities and specimens represented in the collections to which I have had access.

Holochila goodingi sp. nov.

Plate 14, fig. 1-6a and text fig. 1

Male. Forewing purplish-blue with wide black margin along costa; a narrower one on termen; the dark markings of termen extend inward midway between the veins to form a series of obscure dark triangles; a broad discal patch of sex scales extends towards termen along M_3 , Cu_{1a} and Cu_{1b} ; it tends to form a broad trident-shaped area, with special scales lying between the veins as well as along them.

Hindwing purplish-blue with dull black costal band and terminal marks as on forewing. Wing below pale silky-blue, almost grayish-white, with inconspicuous black spots and marks; these spots are more conspicuous in basal half of hindwing.

Forewing length 15 mm, expanse 33 mm.

Female. Forewing broadly dull black with a circular discal white patch; this extends towards base with a bright blue flash; hindwing dull black with a discal area flashed only with blue. Wing beneath similar to male, but with evident traces of the discal white spot of forewing above.

Forewing length 17 mm, expanse 36 mm.

Loc. Victoria: McAlister River, V. Smith, 12 November 1950, holotype male and allotype female, same locality, 18 November 1950, in South Australian Museum Collection, presented by C. G. L. Gooding (no. I.19133); Moe, 20 November 1919, C. G. L. Gooding, paratype female in his collection; Warragul, in Bull Swamp four miles south of the town, 20 March 1939, J. C. Le Souef, two paratype males, one specimen in his collection, the other (I.19123) in S.A. Museum; Delburn, 18 December 1962, A. M. Lucas, paratype female in his collection; Cement Creek, 14 December 1953, D. F. Crosby, paratype male in his collection. New South Wales: Tom Groggin, at 3,500 feet, 12 January 1963, N. B. Tindale, presented to S.A. Museum.

The male genitalia have claspers of the same type as *H. consimilis*, terminating in two outwardly directed spines (fig. 1). In *H. consimilis* there is an additional spine in all the specimens I have examined, including the material originally figured by Waterhouse (1942, p. 123).

H. goodingi is clearly a distinct species related to *H. consimilis*, differing in the darker purplish-blue colour and the wide black margins of the male and in the female by the smaller white discal spot of forewing. In the male of *H. consimilis* there are also present terminal black triangular markings but these are far less conspicuous a feature of the wing markings.

I have considered the possibility that *H. goodingi* is a southern subspecies of *H. consimilis* but judge them to be separate species.

In the trident form of the male sex brand on forewing it is closest to *H. consimilis*, but the special scales on the wing itself are more extensive.

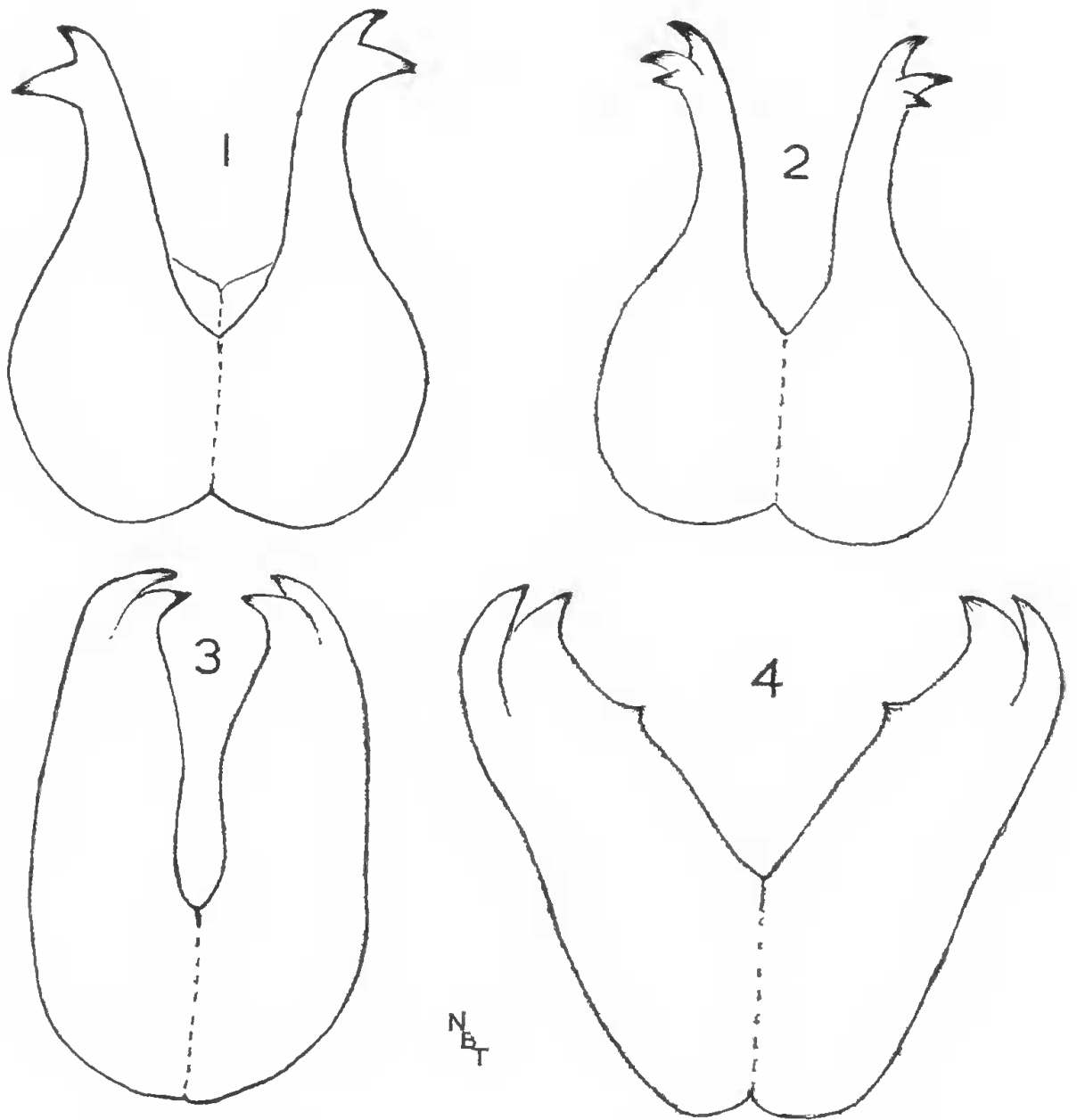


Fig. 1-4. Male elaspers of species of *Holochila*.

Fig. 1. *Holochila goodingi* Tindale, Warragul, Victoria (specimen I.19123).

Fig. 2. *Holochila consimilis* (Waterhouse), Mt. Tambourine, Queensland (specimen I.19132).

Fig. 3. *Holochila absimilis* Felder, Atherton, Queensland, 22 March 1906 (specimen I.19127).

Fig. 4. *Holochila persimilis* (Waterhouse), Mackay, Queensland (specimen in Waterhouse Collection, Australian Museum).

There is a single female from Eden taken 12 November 1914 (Marked Z4 and KL 16521) in the Waterhouse Collection, and there placed with *H. consimilis*, but evidently it is this species. The white patch on the forewing is similar in extent to that on the figured female specimen from Delburn. Like other female examples of *H. goodingi* it lacks traces of any white patch on the hindwing.

Mr. C. G. L. Gooding has seen the species flying around a native clematis near Buln Buln and believes this is the food plant. Flowering specimens of this vine were kindly identified for me by Dr. H. Eichler, as *Clematis glycinoides* D.C.

Holochila consimilis (Waterhouse) 1942

Fig. 2

The type is from Killara, near Sydney, and the species has been recorded from Stanwell Park and Narabeen in the Sydney area, also from Ballina, Lawson, the Blue Mountains and from Lismore and it ranges northward to Southern Queensland.

The female has the white discal patch on forewing suffused with blue along the inner marginal side and towards the base; the hindwing has a blue suffusion over the whole area of the discal patch; occasionally a few white scales appear near the centre of the patch.

The male genitalia, described and figured by Waterhouse (1942, pp. 123-124) were found in the Australian Museum Collection and re-examined. The preparation is from a male labelled Sydney, 27 November 1941, K., G. A. Waterhouse. It may be presumed the K. stands for Killara. One of the claspers is intact, the other seems to have suffered *postmortem* damage. As normally viewed the full length of the larger lateral spine is not appreciated; when viewed obliquely it is seen to be longer than the width of the clasper itself; the third spine is very evident from the same direction.

The original paper did not mention details about the type material. There is a specimen KL. 16533 in the Australian Museum marked as Holotype, labelled Sydney, N.S.W., 3 December 1941 K., G. A. Waterhouse; here again the K. presumably stands for Killara. An allotype female is marked (no. KL.16531) and labelled as from Killara, 29 December 1935. The other New South Wales specimens are from Lawson, Blue Mountains, Clifton, Helensburgh and Stanwell Park.

In the C.S.I.R.O. collection there are others from Narara (males in September, females in November), Ebor (January), Saddleback (February). The last named were taken by H. Thirkell.

Mr. C. G. L. Gooding has specimens from Manly Vale (December) and Grafton (June and August).

Queensland localities are Toowoomba (October and November) and Mount Tambourine. I have examined some 40 males and 28 females.

Holochila absimilis Felder 1862

Fig. 3

The type is from Ash Island, New South Wales, and the reported range of the species is from the Dandenong Range in Southern Victoria to the Cairns district, Queensland.

In the female the white patch on the hindwing is present but does not run to the costa. The blue flash on the white patch of forewing usually covers the inner half of the discal area and is present to a lesser extent in the same position on the hindwing.

The male genitalia have been figured (fig. 3) for comparison with *H. persimilis* from which it differs in the absence of the spine on the shaft of the clasper.

Of this species 57 male and 53 female specimens have been examined from the following localities:—Victoria: Dandenong Range. New South Wales: Kiama (November), Bundeeena (September), Jamberoo (February), West Ryde (September); Sydney: Yamba (September), Narara (December), Grafton (October), Brunswick Heads (May, reared material), Port Macquarie (February), Lismore (October), Ballina, Burleigh Heads. Queensland: Brisbane, Bunya Mountains.

I have not seen specimens from northern Queensland. According to Tite (1963, p. 211) specimens from North Queensland show racial differences, examples from Mackay being intermediate, with males like the northern form and females like those from Brisbane. Unfortunately he has not differentiated between *H. persimilis* and *H. absimilis*—his records should be considered with this in mind.

The Dandenong Range pair in the Australian Museum, taken many years ago by C. French, do not differ from typical specimens from Ballina, New South Wales.

In this species the male sex scales are confined to the veins of the forewing and do not extend on to the wing surface between. Bred and captured specimens from Ballina clearly indicate that there is no difference in bred specimens in the development of this character.

The late Dr. G. A. Waterhouse reared a male specimen which pupated 31 December 1940 and emerged on 27 September the following year.

Mr. Tom Guthrie, in May 1963, reared several specimens from pupae on *Cupania*, associated with black ants. The species has also been reported as feeding on a native *Wisteria*.

Holochila persimilis (Waterhouse) 1942

Fig. 4

The type series of thirteen males and seven females from Mackay, is in the Waterhouse Collection at the Australian Museum. A male dated February 1899 has been marked by Waterhouse as Holotype with register numbers L.3255 and KL.16496. The specimens were taken by R. E. Turner.

The male clasper of a Mackay example, January 1899, R. E. Turner, is preserved on a celluloid strip pinned beneath the specimen. It seems to be the one figured by Waterhouse (1942, p. 123). It was not well shown in the original and therefore has been redrawn, as fig. 4. It will be noticed that a spine, not shown in the earlier drawing, is present about half way down the shaft of the elasper. This spine is absent from the examples of *H. absimilis* I have examined.

It seems clear that the species is a perfectly valid one. The Mackay males have a relatively conspicuous diffuse patch of sex scales on the forewing as well as on the veins and the wing colour is best described as lilac; in southern males the sex scales perhaps tend to be slightly less conspicuous. The females have white patches on both fore- and hindwings; these are broadly margined towards the base with blue scales, somewhat as in *H. absimilis*. Females of the latter species tend to be larger and to have the white patch of hindwing smaller and narrower than in *H. persimilis*.

In addition to the type series I have seen 29 males and 19 females from localities between Narara, New South Wales and the Cairns district in Queensland.

Localities and months of capture are:—New South Wales: Narara (November), Port Macquarie (February), Grafton (August, October), and Byron Bay (January). Queensland: Killarney (February), Southport (January, February). The male figured by Common (1964, p. 121) is from Brisbane (14 Feb. 1907, *ex* A. J. Turner Collection). Brisbane (January, February), Bunya Mountains, 3,000 feet (January, February), Fairy Bower near Rockhampton (January), Mackay, Cairns, Kuranda (January, February).

Holochila helenita Semper

The type is a male from Cape York in the British Museum. The Australian range of the species is from Sydney to Cape York, and a separate race, *H. h. dimorpha* (Röber) 1886 is recognized from New Guinea.

Messrs. I. F. B. Common and M. S. Upton took a series of five males and eight females at Lockerbie on Cape York, Bamaga and Iron Range, between 1st and 12th April 1964, also two females at Crystal Cascades on 24th March 1964. The trident sex mark on veins M_3 , Cu_{1a} and Cu_{1b} is very evident.

In all the females taken on Cape York the white patch of hind-wing is as large as that on the forewing and reaches to the costal margin, without traces of blue scales, except for a slight fringe on the inner side of the forewing spot.

Holochila margarita Semper 1879

The type, from Bowen, Queensland is in the British Museum and the reported range is from Sydney to North Queensland; a race *H. m. maria* (Bethune-Baker) 1908 extends the distribution to New Guinea, the Arn Islands and Misol.

There are six specimens including a female in the Gooding Collection from Grafton (June, September and December).

The Waterhouse Collection material (36 males, 33 females) is all from Queensland, including Burleigh Heads, Stradbroke Island, Mackay, Gayndah, Cairns, Kuranda, Herberton, Claudie River, Thursday Island and Prince of Wales Island.

Messrs. I. F. B. Common and M. S. Upton took examples of both sexes on Cape York, a male on 26 March 1964 at Bamaga, a single female at Lockerbie, 2 April 1964, and another at El Arish on 7 March 1964.

Other localities represented in the C.S.I.R.O. collections are five males from south of Atherton (May), Innisfail (November), Lake Barrine (May) and Montville (August).

The male of this species is well characterized by the trident sex mark on the forewing.

The male example figured by Common (1964, p. 123) was reared from a pupa taken at Yeppoon; it emerged on 14 January 1962; the female he shows is from Brisbane.

In the female of this species the bluish flash at the base of the large white patch of the forewing covers much of the basal half of the area and also extends along the inner margin; this contrasts with the more limited areas covered with blue in the case of the corresponding spot in *H. helenita*. The size of *H. margarita* females tends also to be greater than in that species. In all female specimens examined the white of the hindwing patch runs to the costa.

***Holochila gilberti* (Waterhouse) 1903**

The type is from Port Darwin and it has been taken also at Adelaide River. Common (1964, p. 123) figures a female from Melville Island. The Queensland localities reported for this species are doubtful.

A specimen taken at Darwin by F. P. Dodd in April 1909 is in the C.S.I.R.O. collection.

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EXPLANATION OF PLATE 14

Holochila goodingi Tindale

Fig. 1. Holotype male, McAlister River, Victoria, 12 November 1950, V. Smith, *ex* Gooding Collection, I.19133 in S. Aust. Museum; upper side.

Fig. 1a. *ditto* underside.

Fig. 2. Paratype male, Warragul, Victoria, March 1939, J. C. Le Souef, I.19123 in S. Aust. Museum; upper side.

Fig. 2a. *ditto* underside.

Fig. 3. Paratype male, same details as fig. 2, in J. C. Le Souef collection.

Fig. 3a. *ditto* underside.

Fig. 4. Allotype female, McAlister River, upper area, 18 November 1950, V. Smith, *ex* Gooding Collection, I.19133 in S. Aust. Museum; upper side.

Fig. 4a. *ditto* underside.

Fig. 5. Paratype female, Delburn, Victoria, 18 December 1962, A. M. Lucas, in his collection; upper side.

Fig. 5a. *ditto* underside.

Fig. 6. Paratype female, Moe, Victoria, 20 November 1919, C. G. L. Gooding, in his collection, upper side.

Fig. 6a. *ditto* underside.

